

A DEVICE COMPRISING AT LEAST TWO CONTAINERS CONFIGURED SO AS TO BE SUPERPOSABLE

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to French Patent Application No. 02 09059 filed July 17, 2002 and U.S. Patent Application No. 60/410,308 filed September 13, 2002, which are incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to packaging devices, and more particularly to packaging devices designed to contain at least one cosmetic.

[0003] The term “cosmetic” refers to a cosmetic product as defined in EEC Directive 93/35 dated June 14, 1993.

SUMMARY AND OBJECTS OF THE INVENTION

[0004] A need exists for a device which facilitates the removal of various cosmetics contained in respective containers, in order, for example, to apply various cosmetics taken from said containers, successively or simultaneously onto a medium to be made up or treated.

[0005] According to one of its aspects, the invention provides a device comprising at least two containers configured in such a manner as to be superposable on a stacking axis, and at least one hinge enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is not parallel to the stacking axis, each container defining a housing.

[0006] The axis of rotation may be perpendicular to the stacking axis.

[0007] The device can be configured in such a manner that the housings of the two containers can be opened independently of each other.

[0008] When superposed, the various containers form a column which acts like a single piece which can be easily transported or put away. When in use, the user can “break” the column by pivoting two containers relative to each other, thereby giving access to the housing of one of the containers.

[0009] The user can manipulate the column while holding it in one hand.

[0010] The user does not need to put down a lid in order to access one of the housings, thereby making the device easy to use, in particular in environments such as in a car or on public transport, where the user does not necessarily have a stable flat horizontal surface on which to put the lid down. The fact that there is no need to put down a lid also reduces the risk of bringing the lid into contact with clothes, for example, and marking them.

[0011] One of the containers may comprise a lid with a hinge, and the other container may be fixed on said lid, possibly in a removable manner.

[0012] One of the containers may also be configured so as to form a closure lid for closing the other container.

[0013] Each container may comprise a lid.

[0014] With the exception of the top lid, each lid may be secured to the container that is immediately above it when the containers are superposed and when the stacking axis is vertical.

[0015] In a variant, each container, with the exception of the bottom container, may serve as a closure lid for the container that is immediately beneath it when the containers are superposed and when the stacking axis is vertical.

[0016] All the containers may be stacked in the same way, or at least two of them, or three containers may be stacked in the same way. Each container may comprise an opening, the openings being directed in the same way, for example directed to the top.

[0017] At least one of the housings may be closed in a sealed manner when the containers are superposed. All the housings may be closed in a sealed manner.

[0018] The device may comprise at least two containers, or it may comprise at least three containers, for example four or five containers, configured in such a manner as to be superposable, and at least two hinges, or at least three hinges.

[0019] The device may comprise at least two hinges that are angularly offset around the stacking axis of the containers. The two hinges can be angularly offset by an angle other than 180°.

[0020] At least one of the housings may contain a substance, in particular a cosmetic or a care product. At least two housings, or indeed all of the housings may contain different substances, e.g. cosmetics having different colors, or care products containing different active ingredients.

[0021] At least one of the housings may also contain an applicator member, in particular the housing defined by an end container.

[0022] The device may comprise means for fixing by screwing, snap-fastening, or by friction on a receptacle or on a closure cap of a receptacle.

[0023] It is also possible for the device not to comprise fixing means for fixing by snap-fastening, screwing, or friction on a receptacle.

[0024] The invention also provides a device comprising at least two containers configured in such a manner as to be superposable on a stacking axis, one of the containers comprising a lid connected via a hinge to said container, the other container being added on said lid, each container defining a housing.

[0025] The hinge may enable one of the containers to be pivoted relative to the other, at least partially, about an axis of rotation that is not parallel to the stacking axis.

[0026] The invention also provides a device comprising at least three containers configured in such a manner as to be superposable on a stacking axis, and at least one hinge enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is not parallel to the stacking axis, each container defining a housing, each container, with the exception of the bottom container, serving as a closure lid for the container that is immediately beneath it when the containers are superposed and when the stacking axis is vertical.

[0027] The invention also provides a device comprising at least two containers configured in such a manner as to be superposable on a stacking axis, and at least one hinge interconnecting the two containers and enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is not parallel to the stacking axis, each container defining a housing, at least two of the housings containing different substances.

[0028] The invention also provides a device comprising at least three containers configured in such a manner as to be superposable on a stacking axis, and at least one hinge enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is not parallel to the stacking axis, each container defining a housing, at least one of the containers being fixed in a removable manner on the container immediately beneath it.

[0029] The invention also provides a device comprising at least two containers configured in such a manner as to be superposable on a stacking axis, and at least one hinge enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is

not parallel to the stacking axis, each container defining a housing, at least the housing defined by the end container containing an applicator member.

[0030] The invention also provides a closure cap for closing a receptacle, the closure cap comprising a device as defined above.

[0031] The cap may comprise a bottom portion configured so as to be fixed on a receptacle and so as to enable a device as defined above to be removably fixed thereto.

[0032] The invention also provides a receptacle fitted with a device as defined above.

[0033] The invention also provides a receptacle comprising a receptacle body and a closure cap, the closure cap comprising: at least two containers configured in such a manner as to be superposable on a stacking axis; and at least one hinge enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is not parallel to the stacking axis, each container defining a housing.

[0034] The closure cap for closing the receptacle comprises at least three containers.

[0035] At least one of the containers may be fixed in a removable manner on the container immediately beneath it.

[0036] The invention also provides a receptacle comprising a receptacle body and a closure cap, the closure cap comprising at least two containers configured in such a manner as to be superposable on a stacking axis, and at least one hinge enabling one of the containers to be pivoted relative to the other(s), at least partially, about an axis of rotation that is not parallel to the stacking axis, each container defining a housing, at least one of the containers comprising an applicator member.

BRIEF DESCRIPTION OF THE DRAWINGS

[0037] The invention will be better understood on reading the following detailed description of non-limiting embodiments, and on examining the accompanying drawings, in which:

[0038] Figure 1 is an elevation view of an example device made in accordance with the invention, the containers being superposed and the corresponding housings being closed;

[0039] Figure 2 shows the Figure 1 device after the column has been opened;

[0040] Figure 3 is a fragmentary and diagrammatic perspective view of a detail of the device of Figures 1 and 2;

[0041] Figure 4 is a fragmentary and diagrammatic perspective view showing the housing of the container that has been opened;

[0042] Figure 5 is a view similar to Figure 4 showing a variant embodiment in which the substance is contained in a dish placed inside the housing;

[0043] Figure 6 is a diagrammatic and fragmentary view from above along VI in Figure 1;

[0044] Figures 7 to 9 show, in axial section, various possibilities, from among many others, for securing the containers to one another;

[0045] Figure 10 shows the possibility of configuring the device so as to receive an applicator member in one of the containers;

[0046] Figure 11 shows an embodiment of the invention in which the device is associated with a closure cap for closing a receptacle;

[0047] Figure 12 is a fragmentary and diagrammatic section of the device of Figure 9;

[0048] Figure 13 shows a variant embodiment in which the column of containers can be fixed in a removable manner on a closure cap of a receptacle;

[0049] Figures 14 to 16 are diagrammatic axial sections showing various possibilities for fixing the column on the closure cap;

[0050] Figures 17 and 18 show the possibility of breaking the column at various heights as a function of the substance to be accessed; and

[0051] Figure 19 shows substance being removed by means of an applicator member mounted on the receptacle.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0052] Figures 1 and 2 show an example device 1 made in accordance with the invention, the device comprising one or a plurality of containers that are able to be superposed on a stacking axis X, namely a bottom container 2 and a top container 3, and possibly a plurality of intermediate containers 4 between them. Hinges 7 enable each container to be pivoted, at least partially, relative to an adjacent container. Each hinge 7 is preferably a film hinge made by integrally molding plastics material with at least one of the containers.

[0053] Figure 3 is a larger-scale view of an example of such a hinge 7. The hinge can comprise two material bridges 8 each comprising a thin zone 9 enabling pivoting about an axis of rotation Z that is not parallel to the stacking axis X, and can further comprise, between the two material

bridges 8, a connection strip 10 configured so as to hold the hinge in its open position when the two hinged-together portions have pivoted beyond a certain angular stroke, e.g. about 90°. The connection strip 10 passes through a maximum stress state when the opening stroke reaches said value. In the example under consideration, the axis Z is substantially perpendicular to the axis X.

[0054] Naturally, other hinges could still be used without going beyond the ambit of the present invention, e.g. film hinges that do not have a connection strip 10, and comprising only a single material bridge 8, for example.

[0055] Each container 2, 3, or 4 defines a housing 12 which can contain a cosmetic P. The cosmetic P can be contained directly in the corresponding container, as shown in Figure 4, or as shown in Figure 5, it can be contained in a dish 13 suitable for being removed from the container 4, if necessary, so that it can be replaced, for example.

[0056] The containers can be made in a plastics material, in particular a transparent or translucent plastics material.

[0057] Figures 5 and 6 show that two consecutive containers are secured to two respective grip tabs 14 and 15 which are disposed diametrically opposite a hinge 7, and which enable the column to be opened at the desired height. The tabs 14 and 15 are positioned side by side when the two corresponding containers are stacked.

[0058] Figure 6 also shows that the hinges 7 are angularly offset relative to each another, around the stacking axis X. For reasons of clarity, Figure 6 shows only the first two containers. The offset of the hinges 7 enables the tabs 14 and 15 to be accessed, in particular when each container is relatively small in height.

[0059] Two consecutive containers can be interconnected in various ways, as described below with reference to Figures 7 to 9.

[0060] Each container can comprise a body 16 and a lid 17 connected to the body 16 via the corresponding hinge 7, and the container that is immediately above it can comprise a bottom wall 18 which is fixed by means of a layer of adhesive 19 on the top face of the lid 17, as shown in Figure 7, for example. Figure 7 also shows that the lid 17 can comprise a sealing lip 24 designed to be applied on the inside surface of the body 16 of the bottom container.

[0061] Other means for fixing the top container on the lid of the bottom container can be used without going beyond the ambit of the present invention, and the top container can be fixed by

snap-fastening, possibly in a removable manner, on the lid of the bottom container, as shown in Figure 8, for example.

[0062] In this figure, it can be seen that the top container can comprise fixing means 21 designed to co-operate with complementary fixing means 22 secured to the lid 17. In the example shown, the fixing means 20 and 21 are configured so as to co-operate by snap-fastening, but they could also co-operate by screwing or by friction.

[0063] The force required to separate the container from the lid is preferably greater than the force required to cause the lid to open.

[0064] Without going beyond the ambit of the present invention, it is also possible to make the bottom wall of the top container in such a manner that said top container serves as a lid for the bottom container, as shown in Figure 9. In this figure, it can be seen that the bottom wall 18 of the top container comprises a sealing lip 24 configured so as to be fitted in a sealed manner on the inside surface of the body of the bottom container.

[0065] At least one of the housings 12 can be configured so as to receive an applicator member 27 instead of a substance, as shown in Figure 10. This figure shows part of the end container 3 with a lid 17 comprising a wall 28 configured so as to enable the applicator member 17 to be housed in the container 3.

[0066] The column of containers can form part of a closure cap 29 for closing a receptacle 30, as shown in Figure 11.

[0067] As can be seen in Figure 12, such a closure cap 29 can comprise a skirt 34 configured so as to be screwed on a threaded neck of the receptacle 30, and a sealing lip 33 designed to bear against a corresponding surface of the receptacle 30 so as to obtain sealed closure of said receptacle. The top portion of the closure cap is configured in such a manner as to form the body 34 of a first container of the column, the body defining a housing 12 containing a product P.

[0068] Without going beyond the ambit of the present invention, it is also possible to enable a column of containers to be fixed removably on a closure cap of a receptacle, as described below with reference to Figures 13 to 16.

[0069] Figure 13 shows a column of containers 2, 3, 4 similar to the column described with reference to Figures 1 to 8, the container 2 additionally being provided with fixing means for fixing on a closure cap 39 of a receptacle 30. Figure 13 shows the receptacle 30 having a shape

that is different from the shape of the receptacle in Figure 11, so as to illustrate the fact that the invention is not limited to a receptacle having some particular shape.

[0070] Various fixing means for fixing the container 2 on the cap 39 can be used.

[0071] For example, as shown in Figure 14, the container 2 can be provided with a thread 40 designed to co-operate with a corresponding thread 41 of the cap 39.

[0072] Fixing can also be provided by snap-fastening the container 2 on the cap 39, as shown in Figure 15. To this end, the container 2 can, for example, be provided with an annular bead 43 designed to be snap-fastened into a corresponding annular groove 44 made in the cap 39

[0073] As shown in Figure 16, the container can also comprise a fixing portion 45 configured so as to co-operate by friction with a surface 46 of the cap 39.

[0074] In order to use the device shown in Figure 13, the user can “break” the column at the height corresponding to the substance to be used. By way of example, Figure 17 shows the column “broken” at the end container 2, and Figure 18 shows the column “broken” at a container adjacent to container 2.

[0075] Before or after having “opened” the column at the desired level, the user can detach the cap 39 from the receptacle 30, and can, for example, use an applicator member 48 secured to the receptacle 30 to take substance P contained in an open housing, as shown in Figure 19. The user can take a single substance only, then apply it on the medium to be treated, or, in a variant, can use the same applicator member 48, for example, to take several substances in succession contained in various housings of the column, so as to create a mix of colors or textures, for example.

[0076] At least one of the substances contained in the various housings 12 of the column can, for example, be composed of solid bodies of relatively large size, e.g. flakes, which would be incapable of passing through the applicator member 48 if they were contained in the receptacle 30, if said application member 48 were constituted by a porous material, e.g. a foam. The product contained in the receptacle 30 can, for example, be a liquid foundation and the user can use the applicator member 48 to take flakes having the desired color from one of the housings.

[0077] Naturally, the invention is not limited to the embodiments given above.

[0078] In particular, the column of containers may comprise a number of containers that is different to the number of containers in the examples shown, e.g. only two containers, or three, or four containers.

[0079] The column of containers may also be associated with a receptacle on which an applicator member is fixed other than a foam applicator member, e.g. a sintered applicator member.